

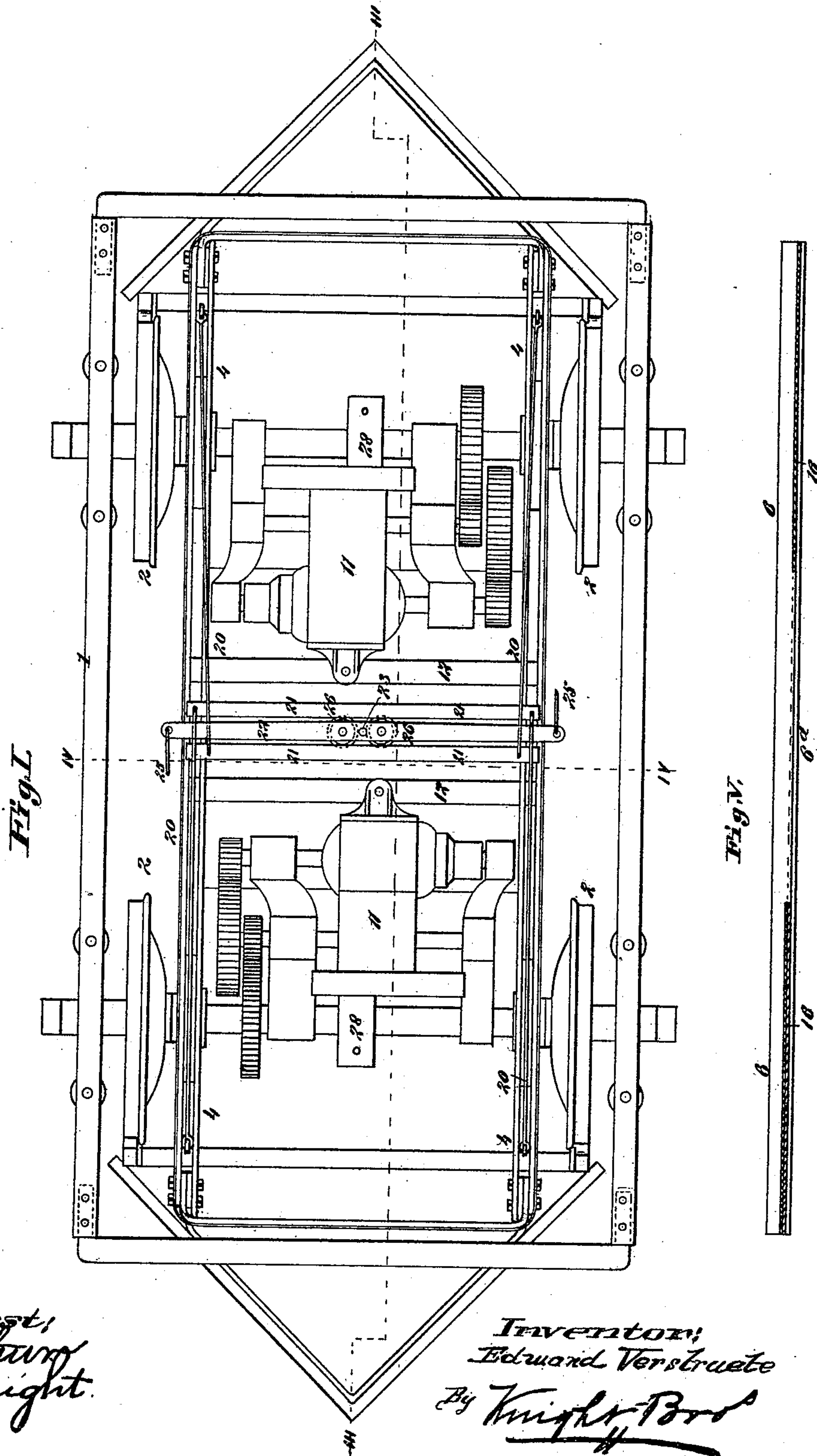
(No Model.)

2 Sheets—Sheet 1.

E. VERSTRAETE.  
MOTOR CAR.

No. 438,719.

Patented Oct. 21, 1890.



Attest,  
C. Arthur  
S. H. Knight.

Inventor,  
Edward Verstruete  
By Knight Bros  
attys.

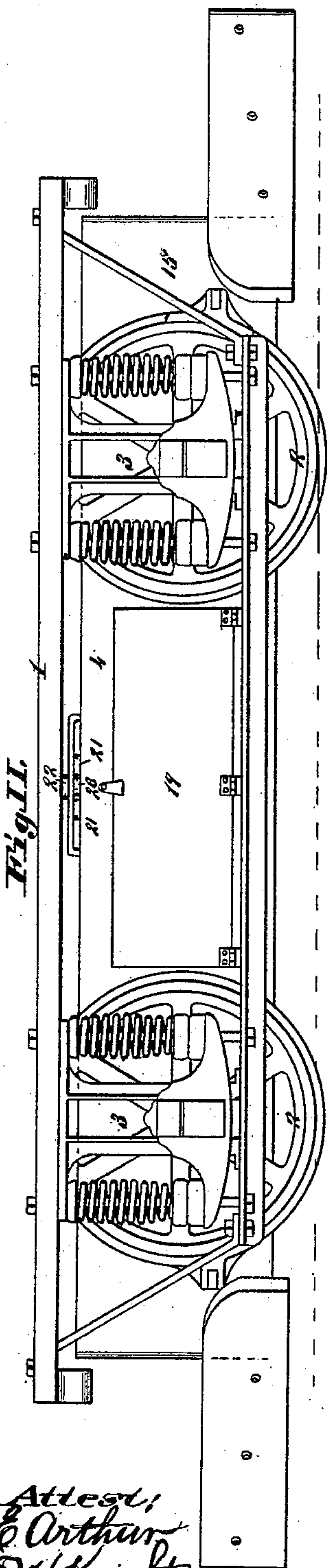
(No Model.)

2 Sheets—Sheet 2.

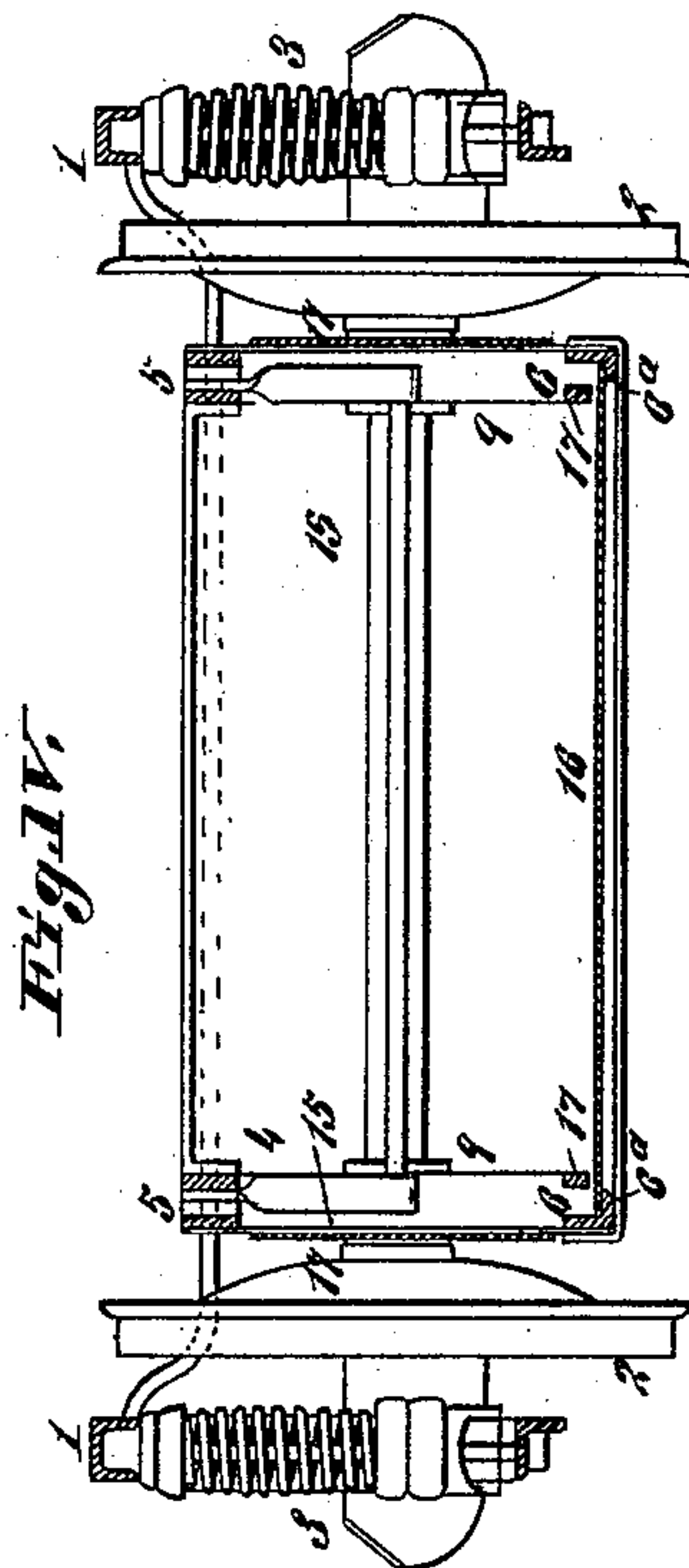
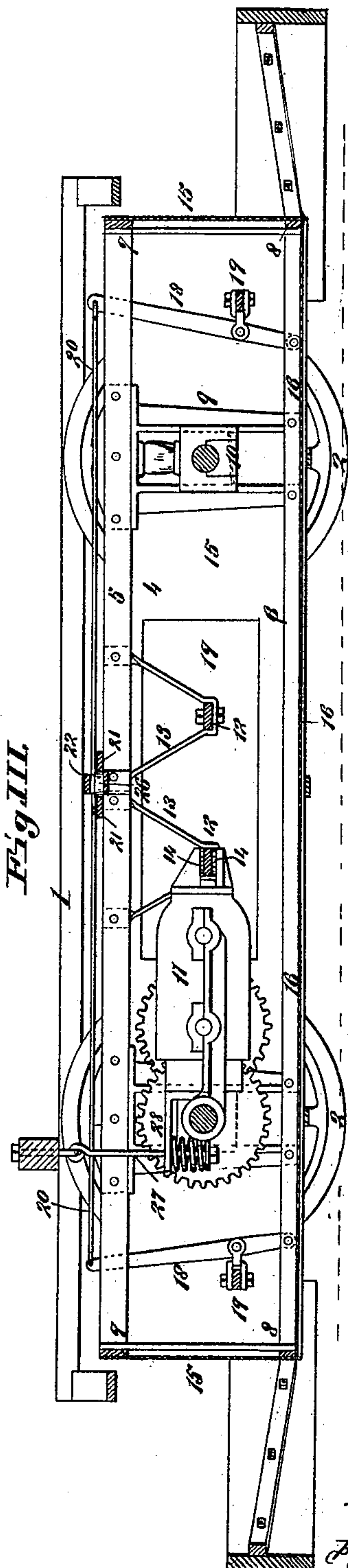
E. VERSTRAETE.  
MOTOR CAR.

No. 438,719.

Patented Oct. 21, 1890.



Attest:  
E. Arthur  
S. H. Knight



Inventor:  
Edmond Verstraete

By *Knight Bros*  
attys



# UNITED STATES PATENT OFFICE.

EDMOND VERSTRAETE, OF ST. LOUIS, MISSOURI.

## MOTOR-CAR.

SPECIFICATION forming part of Letters Patent No. 438,719, dated October 21, 1890.

Application filed November 13, 1889. Serial No. 330,149. (No model.)

*To all whom it may concern:*

Be it known that I, EDMOND VERSTRAETE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Motor-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in motor or power cars for street-railways and the like; and it consists in features of novelty, hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view with the body of the car removed. Fig. II is a side elevation. Fig. III is a vertical longitudinal section taken on line III III, Fig. I. Fig. IV is a vertical transverse section taken on line IV IV, Fig. I. Fig. V is a longitudinal section of the bottom of the motor-truck.

Referring to the drawings, 1 represents an outside frame, upon which is placed and to which is secured the body of the car. (Not shown.) This frame is connected to and supported by the axles of the track-wheels 2 by the use of suitable pedestals and boxes 3, as usual.

4 represents an inside frame, consisting of upper side bars 5, lower side bars 6, upper end bars 7, and lower end bars 8. This frame is secured to and supported by the axles of the track-wheels by means of suitable pedestals 9 and boxes 10. There is no connection between the frames 1 and 4, so that the rise and fall of the frame 1 under different weights which it may be carrying has no effect whatever upon the frame 4. The frame 4 carries the electrical motors 11, which are suitably mounted therein and geared, as usual, to the axles of the track-wheels. I have shown one of the motors removed in Fig. III. They are both shown in Fig. I. Now as there is no connection between the frames 1 and 4, the position of these motors are not affected by the different elevations assumed by the frame 1, and their operation is thus greatly improved.

I have shown the inner ends of the motors supported on bars 12, connected by straps 13 to the frame 4, and I prefer to place rubber or other anti-rattling strips 14 between the bars

and motors. (See Fig. III.) The frame 4 is inclosed by side and end plates 15, secured to the upper and lower bars of the frame for the purpose of excluding dirt and mud from the motors, and the frame is also provided with a bottom 16. (See Figs. III and V.) One or both of the sides of the frame are provided with doors 17, (see Fig. II,) through which access may be had to the motors, and the bottom 16 is made in sections, as illustrated best in Fig. V, which may be moved one over the other in either direction to allow access to the motors from beneath the car. The bottom is preferably supported on flanges 6<sup>a</sup> on the lower side bar 6, and are held from upward displacement by strips 17. (See Fig. IV.)

18 represents the brake-levers connected to the brake-shoe beams 19, and to the upper ends of which rods 20 are made fast, and which extend to bars 21, (see Fig. I,) located on each side of a central bar 22, pivoted at 23 to a cross-strip 24 on the frame 4. (See Fig. III.) The rods of the levers of one end of the car pass to the bar 21, the farthest from that end of the car, and the same is true of the rods of the levers of the other end of the car. (See Fig. I.)

25 represents part of the rods connecting the outer ends of the bar 22 to the brake-applying power. (Not shown.) The bar 22 is provided with rollers 26 near its pivot, which bear against the bars 21, and it will thus be seen that by moving the bar 22 on its pivot the brakes will be applied.

To prevent rocking of the car-body when the car is in motion, I connect it by means of spring-rods 27 to perforated projections 28 on the motors. (See Figs. I and III.) Any tendency of the car-body to rock while passing over uneven tracks will be counteracted to a great extent at least by these spring-rods.

30 represents the deflector or "cow-catcher," which is secured to the frame 4, and is not therefore affected by the changes in the elevation of the car-body.

The brake-beams 19 are carried by the frame 4, so that the action of the shoes on the wheels is not affected by the rise and fall of the car-body and its frame.

I claim as my invention—

1. In a car, a frame mounted on pedestals

independently of and approximately of the length of the body-frame and adapted to carry a motor or motors, substantially as and for the purpose set forth.

5 2. In a car, an inclosed frame mounted independently of and on axles at each end of the body-frame and adapted to carry a motor or motors, substantially as and for the purpose set forth

10 3. In a car, an inclosed frame mounted independently of the body-frame and adapted to carry the motor or motors and a sectional

bottom for said frame, substantially as and for the purpose set forth.

4. In a car, the combination of the brake- 15 beams, levers secured to the beams, rods connected to the levers, bars 21, to which the rods are connected, and a pivoted bar 22, provided with rollers 26, substantially as and for the purpose set forth.

EDMOND VERSTRAETE.

In presence of—

GEO. H. KNIGHT,  
E. S. KNIGHT.